

# **ULTIMATE STRENGTH OF DOUBLE LAYER STEEL FABRIC REINFORCED CONCRETE SHORT WALL PANEL**

By

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## DECLARATION

I **Noor Raimee Bt Mohamad Radzi**, 2006879097 confirm that the work is my own and that appropriate credit has been made to the work of others.

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## ABSTRACT

Reinforced concrete construction which is the backbone to any infrastructural project depends for its performance on its prime elements namely concrete and reinforcement. The construction industry in Malaysia in high rise building currently practices use of the reinforced concrete wall due to improved construction technology. Reinforced Concrete Wall Panel is the new method currently used to replace the conventional method. It is an established fact that by mechanization or industrialization any and every productive activity invariably benefits in all respects of quality, efficiency of time and energy and elegance of human effort.

This research is conducted to determine the structural behavior of double layer steel fabric short wall panel. The short wall panel is subjected to direct axial load through experimental work. Two wall panels reinforced with double layers steel fabric of type (B7) with a dimension of 75x1000x500 mm (Thickness:Length:Height) were prepared. Grade 30 Normal Portland Cement (OPC) with a water cement ratio 0.55. The wall panel was tested under compressive axial load (without eccentricity). The end conditions of the wall for this study are pinned-fixed.

Experiment results show that both wall panels failed in compression shear at bottom edge of the wall panel. The average ultimate load of both samples was 391.27 kN. A single curvature buckling pattern is dominant in the both samples with average maximum lateral displacement as calculated 5.47 mm, occurred at 375mm from base. This research is hope to replace the conventional method which is took longer time thus increase the total cost. This research gives many benefits to developer where by using this short wall panel it delivers fast and cost effective technique.

**Keywords:** *reinforced concrete short wall panel, steel fabric*

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